

Appl. No. 10/710,522
Amdt. dated October 08, 2007
Reply to Office action of August 23, 2007

Amendments to the Drawings:

The attached Replacement Sheet of drawing includes changes to Fig. 1 is to
replace the original sheet of Fig. 1. In the amended Fig. 1, "Prior Art" is properly
5 labeled as previously suggested by the Examiner in the office action.

Attachment: Replacement Sheet

1 page

REMARKS/ARGUMENTS

Claim rejections – 35 U.S.C. 102

Claims 7, 9, 11 were rejected under 35 U.S.C. 102 as being anticipated by Bryan C. Chung (US 6361614; hereafter Chung).

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Claim rejections – 35 U.S.C. 103(a)

Claims 1-6, 8, 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bryan C. Chung (US 6361614; hereafter Chung) in view of A. Beverina et al. ("Copper Photocorrosion phenomenon during Post CMP cleaning" Electrochemical and solid-state Letters, Vol. 3 (2000) 156; hereinafter Beverina).

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Response of Claim 1

Claim 1 of the instant application teaches that "transferring said wafer into said wet cleaning tool in a light inhibited manner", which means that the wafer is in a light inhibited manner **on the route and during the process of transporting to the wet cleaning tool**. As taught in the instant application, the moisture in the air will induce copper corrosion, so the wafer needs to be in a light-blocking environment **even before** entering the wet cleaning tool. Therefore, the instant application teaches that the wafer is in a light-blocking ambient not only in the wet cleaning tool but also on the route to the wet cleaning tool as required in claim

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1. In addition to the aforementioned patentable feature in claim 1, paragraph [0023] of the instant application recites: "... [t]he wafer cleaning tool 102 may be covered by the aluminum foil to create a dark environment.". As a result, the aluminum foil covering for the wafer cleaning tool clearly enables the wafer to be **transported/transferred/brought into** the wet cleaning tool in a light inhibited/dark environment manner.

Chung teaches a method and apparatus for eliminating the exposure of semiconductor wafers to light during rinsing and drying **in wafer cleaning machines** (abstract, lines 1-4).

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Furthermore, Chung teaches that “using a light blocking material to cover the transparent window of the wafer cleaning machine while the semiconductor wafers are being rinsed and dried.” (col. 2, lines 36-39)

5 Beverina merely teaches that the elimination of light **during the cleaning step** eliminates the corrosion. (abstract) In addition, Beverina teaches that by **performing the HF cleaning step in equipment closed to light** allows the elimination of the corrosion phenomenon. (see the 3rd paragraph in the results)

10 The applicant asserts that the prior arts of record of both Chung and Beverina neither teach nor make obvious the claimed features of the instant application as a whole as recited in claim 1. In particular, the prior arts of both Chung and Beverina, either singly or in combination, do not teach or suggest the claimed feature: “transferring said wafer into said wet cleaning tool in a light inhibited manner”. Therefore, claim 1 is allowable. Furthermore, Chung and Beverina suggest the use of the light blocking means and method **inside** the wafer cleaning machines to be fully sufficient for achieving the
15 established objectives; therefore, they are inherently teaching away from using any additional “unnecessary” means for blocking light **outside of** the wafer cleaning machine, which are used before and after cleaning.

Response of Claims 2-6

20 As claims 2-6 are dependent upon claim 1, they should be allowable if claim 1 is allowed.

Response of Claims 7, 9, and 11

25 As shown in the Amendment to The Claims section, Claim 7 has been amended to include the following patentable feature: “a light inhibiting means for transferring said wafer into said wet cleaning tool”, which is clearly not anticipated by Chung. The above claim amendment

is fully supported in paragraph [0023] of the instant application, which recites the following:
“ the light inhibition means 120 may be a sheet of aluminum foil..... [t]he wafer cleaning
tool 102 may be covered by **the aluminum foil** to create a dark environment.”as well as
Paragraph [0027], which recites “...transferring the wafer into the wet cleaning tool in a light
5 inhibited manner.” Therefore, in the amended claim 7, the first light inhibiting means refers to
the light inhibiting means (the aluminum foil so as to allow transferring of wafer in a light
inhibited manner) covering on the wafer cleaning tool 102. In addition, in paragraph [0022]
of the instant application, which recites, “ the wafer wet cleaning system 100 comprises a
wafer cleaning tool 102 and a light inhibition means 120.” Therefore the second light
10 inhibiting means in the amended claim 7 refers to the light inhibition means 120. As a result,
no new matter has been added. Based upon the same arguments as presented above for
Claim 1 for the above patentable feature for claim 7, claim 7 is clearly patentable over Chung
and thus should also be allowed.

Pending the allowance of claim 7, dependent claims 9 and 11 should also be allowed.

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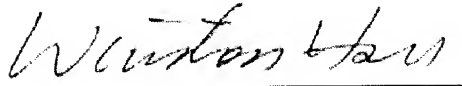
Response of Claims 8 and 10

As previously argued above for claims 1 and 7, claims 1 and 7 are clearly patentable over
Chung in view of Beverina. Furthermore, both Chung and Beverina suggest the use of the
light blocking means and method **inside** the wafer cleaning machines to be fully
20 sufficient for achieving their established objectives; therefore, Chung and/or Beverina
inherently teaching away from using any additional “unnecessary” means for blocking
light **outside of** the wafer cleaning machine, which are used before and after cleaning. As
a result, dependent claims 8 and 10 should also be allowed once claim 7 is allowed.

Applicant respectfully requests that a timely Notice of Allowance be issued in this
25 case.

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Sincerely yours,



Date: 10.08.2007

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- 10 Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan)